Noise Abatement **UDOT 08A2-1**

Effective: November 6, 1987 Revised: September 25, 2008

Purpose

To establish the policy and procedure for conducting traffic noise studies, implementing noise abatement measures and coordinating with local municipalities and the public to ensure that all feasible and reasonable mitigation measures are incorporated into projects to minimize noise impacts and protect the public health and welfare.

Policy

The Utah Department of Transportation recognizes a commitment to minimize noise impacts generated by highway traffic that may adversely impact human activity and the quality of life of residents located in the vicinity of heavily traveled roads. UDOT will install noise mitigation measures according to the guidelines and requirements set forth in the Procedure implementing this policy. The highway traffic noise prediction requirements, noise analysis, and noise abatement criteria in this regulation are consistent with *Federal Regulation 23 CFR 772 - Procedures for Abatement of Highway Traffic Noise and Construction Noise* and *Utah Code 72-6-111 & 112.*

Background

A. Applicability

1. Type I Project - Noise abatement will be considered for all Type I projects where noise impacts are identified. A Type I project is one that includes construction of a transportation facility on a new location, increases the number of through traffic lanes or alters the horizontal or vertical alignment of an existing transportation facility.

    a. Noise impact analyses will include lands within Land Use Activity Categories A, B, and C only when development exists or "planned, designed, and programmed." (See Table 1) UDOT will consider a development as being "planned, designed, and programmed" when a formal building permit has been issued prior to the date the final environmental decision document is approved. These same criteria will be used when determining if the owner/resident of these same lands will be allowed to cast a ballot- for or against noise abatement if the analyses determines it is reasonable and feasible (See Section C.5, Public Involvement). Noise impact analysis will not be considered for undeveloped lands.

2. Type II Project - The Utah Department of Transportation does not provide a noise retrofit (Type II) program.

B. Analysis of Traffic Noise Impacts and Abatement Measures

1. The Department will evaluate expected traffic noise impacts associated with Type I projects and abatement measures to mitigate these impacts.

2. The traffic noise analysis will include the following:

   a. Identification of existing activities, developed lands, and undeveloped lands for which development is planned, designed and programmed. (See definition under Section A.1)

   b. Determination of existing and future build noise levels.

   c. Determination of traffic noise impacts.

   d. Examination and evaluation of alternative noise abatement measures for reducing or eliminating noise impacts.

Table 1
UDOT Noise Abatement Criteria (NAC)
Based on FHWA Noise Abatement Criteria, 23CFR772

Activity Category	Leq(h), dBA*	Description of Activity Category
A	56 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	66 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, hospitals and cemeteries.
C	71 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands.
E	51 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

* Hourly A-Weighted Sound Level in Decibels, Reflecting a 1 dBA "Approach" Value Below 23CFR772 Values

3. UDOT considers a traffic noise impact to occur when either of the following situations are expected at a sensitive land use:

   a. The design noise level is greater than or equal to the UDOT Noise Abatement Criterion (NAC) in Table 1 for each corresponding land use category, or;.

   b. The design noise level is greater than or equal to an increase of 10 dBA over the existing noise level. This impact criterion takes effect regardless of the existing noise levels. Existing noise levels are defined as the noise levels (present conditions) at a receiver prior to the addition of the travel lanes or new construction on the adjacent transportation facility. A 10 dBA increase is perceived by most people as a doubling of noise loudness. (See Table 2)

Table 2: SOUND LEVEL CHANGE vs. LOUDNESS

Sound Level Change	Relative Loudness
1 dBA	No perceptible change
3 dBA	Barely perceptible change
5 dBA	Readily perceptible change
10 dBA increase	Perceived as twice as loud

C. Noise Abatement Criteria

The noise analysis will identify traffic noise impacts, which will then be considered for noise mitigation. The overall goal of mitigation is to obtain a substantial noise reduction, which may or may not result in noise levels below the NAC levels. The two relevant criteria to consider when identifying and evaluating noise abatement measures to be incorporated in a project, is whether or not mitigation is feasible and reasonable. Noise mitigation will be provided if it is determined to be both feasible and reasonable.

Feasibility deals primarily with constructability and engineering considerations (e.g., Can a substantial noise reduction be achieved given the conditions of a specific location? Is the ability to achieve noise reduction limited by factors such as topography, access requirements for driveways or ramps, the presence of local cross streets, or other noise sources in the area?) A proposed noise abatement measure that will not achieve a minimum of 5 decibels of attenuation (positive noise reduction) for at least 75 percent of front-row (adjacent) receivers is not considered feasible. In addition, preliminary and final design consideration should be given to the elements of safety and maintenance, and should be consistent with general AASHTO design principles.

Reasonable Mitigation - This is a more subjective criterion than feasibility. It implies that common sense and good judgment were applied in arriving at a decision. (e.g., does the proposed noise abatement measure satisfy the cost criterion established under this policy?)

Some of the factors considered when determining if mitigation is **feasible** and **reasonable** include, but are not limited to, the following:

1. **Noise Abatement Benefits** - Every reasonable effort should be made to obtain substantial noise reductions. UDOT defines a substantial reduction when noise levels are reduced at the front row receivers by at least 10 dBA. **In any case, no abatement measure shall be deemed feasible if a minimum reduction of 5dBA cannot be achieved for at least 75 percent of the front-row (adjacent) receivers.** It is not considered to be a prudent investment of public funds to construct noise abatement measures that will not result in at least a readily perceptible noise reduction.

   In determining and abating traffic noise impacts, primary consideration will be exterior areas surrounding residential areas or areas of frequent human use that are adjacent to individual properties. For residential areas, the consideration point will be the outside area that is immediately facing the transportation facility, which in most cases will either be the front or back yard. This also applies to special-use and non-residential areas, such as a park playground area or an outdoor restaurant seating area.

   Consideration will be given only for interior areas where outside human activity is minimal, such as hospitals and churches and other types of public use, non-profit and institutional structures.

2. **Local Issues** - Local governments may have ordinances in place that restrict the height of fences and walls along property lines. In addition, there is an increased potential for conflicts between noise barriers and overhead utilities in urban areas. As such, proposed noise barriers on non-limited access roadways in urban areas will not exceed 8 feet in height.

3. **Land Use and Zoning -** The current zoning of the land adjacent to the transportation facility project will be reviewed during the mitigation consideration process. Noise abatement measures are usually not consistent with commercial or industrial zoning (Land use Category C) as businesses usually rely on visual exposure from the roadway to attract customers. However, the noise analyses and consideration of abatement will apply to all activities in Land Use Categories A, B and C.

4. **Engineering, Safety and Maintenance -** As is the case with any structure, there are engineering, safety and maintenance issues that must be considered to determine its constructability. If any of these issues are substantial enough to preclude good safety and maintenance practices, then the abatement measure may be deemed not feasible. An example of this condition would be the reduction of sight distance below minimum safety standards as a result of the construction of the noise abatement measure.

5. **Cost of Abatement -** Residential Areas (Category B, Table 1):
A benefited receiver is any impacted receiver that gets a noise reduction of 5 dBA or more as a result of noise abatement analyzed using the FHWA Traffic Noise Model (TNM). The maximum cost used to determine reasonable mitigation, is listed in the "Procedures" section.

   In the event that the projected noise abatement cost is greater than allowable cost per receiver, noise abatement measures may be considered reasonable only if it can be demonstrated that a "severe" noise impact will occur. Severe traffic noise impacts are defined as traffic noise impacts which are projected to increase existing receiver noise levels by 30 dBA or more, or results in absolute exterior noise levels of 80 dBA or greater.

   Non-Residential Areas (Category A, B or C, Table 1): The cost of noise abatement measures for schools, parks, churches and other non-residential developments including commercial and industrial areas will depend on height of noise abatement required and corresponding length of frontage this type of development has exposed to the transportation facility. The allowable cost per linear foot of abatement in non-residential areas is listed in the "Procedures" section.

6. **Public Involvement** - The UDOT Region Project Manager (PM), the Region Public Involvement Coordinator (PIC) and the Region Environmental Engineer/Manager will decide on the appropriate level of public involvement activities. The purpose of the public involvement will be to make sure that the concerns of the affected communities are known to the Department and that every effort to provide noise abatement to an impacted community is taken. Actions to involve the public may include:
   - Special open houses and information meetings

- Mailers
- Workshops

UDOT will contact the following groups and individuals to initiate the public involvement process:

- Local municipalities
- Front row (adjacent) receivers
- Residence and business owners who are impacted by noise and would benefit from noise abatement measures (a reduction of noise by 5 dBA or more).

7. **Balloting -** As part of the final design phase of projects, the Department needs to know if residents/land owners are in favor of noise abatement measures. This public input along with other information including; local ordinances, the amount of noise reduction achieved, engineering considerations, cost, and views of the impacted and benefited residents will be considered together to come to a decision on whether or not to construct noise abatement. This process involves sending ballots to residents/land owners so they can indicate their preference for or against noise abatement measures.

   Ballots sent by mail are deemed by the Department as "due diligence" in notifying the affected residents of possible noise mitigation measures in their area. One ballot will be sent by regular mail to each resident/land owner of record and each will be given a deadline as to when the ballots need to be returned for counting. If ballots sent to the residents/land owners are not returned by the deadline, a second ballot will be sent by registered mail, to those who have not returned a ballot. .

   Noise abatement will only be recommended if 75 percent of the following groups of residents/land owners vote, through balloting, in favor of the abatement:

   - Front row (adjacent) receivers,
   - Receivers that would be impacted by the project and benefited by noise abatement

   The denominator used to calculate this percentage will equal the total number of completed ballots returned. At least 50 percent of the total number of completed ballots must be returned to adequately assess if noise abatement measures are desired by residents/land owners. If less than 50 percent of completed ballots are returned, then noise abatement measures will not be considered reasonable.

If the project is phased for funding and construction over several years and specifically beyond 3 years from the initial balloting effort, then an evaluation will be completed and documented to determine whether there have been significant changes in property ownership of the impacted receivers since the initial balloting was completed. If significant changes in ownership have taken place, re-balloting of the impacted receivers will be required. Significant changes in property ownership are defined as 25 percent or more for the purposes of re-balloting.

If the property owners vote to reject construction of a noise abatement device, their area will not be reconsidered for future noise abatement unless a future transportation project falls under the guidelines of a Type I Project for noise abatement. **This point should be emphasized at public meetings and highlighted in mailers.**

UDOT will consider written documentation from local governments and/or community councils of their noise wall/abatement desires and/or local building ordinances prior to making a decision on noise abatement within their area of jurisdiction. This documentation will be only one of the factors, but not the sole factor, taken into account in determining whether noise mitigation is considered for a particular area of impacted receivers. Early communication with the local government agency to discuss their building ordinances for noise mitigation is encouraged to access and mitigate any conflicts that may arise over noise abatement construction.

8. **Abatement Design** - A noise abatement device must be designed in accordance with the following: (1) good design practice, (2) optimal performance, (3) current highway safety technology, and (4) local ordinances where applicable. Aesthetics treatment, graffiti deterrence and landscaping will be considered where appropriate in consideration of design standard specifications, cost efficiency, maintenance, and local municipality coordination. Noise abatement measures are not intended to serve as privacy fences or safety barriers.

9. **Noise Receptor Location -** Noise receptor locations are normally restricted to exterior areas of frequent human use (interior locations are only used when there are no outside activities, such as in churches, hospitals, libraries, etc.). Typically, noise receptor locations are chosen at areas between the right-of-way line and buildings where frequent human activity occurs, such as a patio, pool, or play area in the yard of a home (the selection of the area of frequent human activity is made by the noise analyst). The Region Environmental Engineer/Manager will ensure that noise receptor locations are determined in a uniform and consistent manner on all projects.

Once noise abatement has been determined feasible then the Department will determine whether its construction is reasonable by thoroughly considering the wide range of criteria described above. The UDOT Noise Abatement Measure Recommendation Checklist (See Checklist in the Appendix) will be completed and a decision on mitigation documented in the project file. The Department will only construct noise abatement measures, if they have been determined reasonable and feasible. The decision to recommend or not recommend noise abatement will normally be the responsibility of the Region Environmental Engineer/Manager. Concurrence will be made by the Project Manager and the Region Pre-Construction Engineer.

D. Noise Abatement Measures

1. If a noise impact is identified, the following abatement measures may be considered including a cost/benefit analyses to compare alternatives:

    a. Traffic Management Measures (e.g. truck restrictions or the reduction of speed limits).

    b. Earthen berms may be constructed on both limited and non-limited access roadways if feasible and reasonable.

    c. Noise barriers may be constructed on limited access roadways, within UDOT right of way if feasible and reasonable.

    d. Noise barriers may be constructed on non-limited access roadways if feasible and reasonable. Where local ordinances apply, the height of noise barriers on non-limited access roadways will be limited to a maximum of 8 feet in height. The purpose of this height limitation is to provide noise abatement measures that are more consistent with the aesthetics of the local community.

    e. In accordance with 23 CFR 772.13(c)(6), noise insulation of public use or nonprofit institutional structures will be considered as a noise abatement measure when determined reasonable and feasible.

    f. Instances may arise in which Department right of way is not the most prudent location for noise abatement measures, yet such measures can be feasible and reasonable, if built on adjacent property (or adjacent public right of way). In these cases:

        1. The Department's cost is limited to normal cost for abatement on Department right-of-way.

2. Adjacent property owners allow access and easements as necessary in order to construct and maintain noise abatement measure(s).

3. Maintenance of noise abatement measures and associated landscaping on the side facing the highway will normally be the Department's responsibility if determined to be feasible and reasonable. The opposite face shall be maintained by UDOT as well, unless maintenance responsibilities are assigned to other parties.

2. For projects on UDOT facilities, UDOT will own and maintain all noise abatement measures. For local government projects, the local government will own and maintain all noise abatement measures.

E. Local Municipality Cost Participation

In instances where noise abatement has already been deemed feasible and reasonable, a third party such as a local municipality, may contribute funds to make functional or aesthetic enhancements to a noise abatement feature.

F. Projects Funded from Other Sources

The Department may construct and maintain noise abatement measures along state highway right-of-way in cases where citizens, adjacent property owners, developers, or local municipalities provide the cost for the noise abatement; and meeting other established criteria. The Department will design, build, and maintain the abatement measure, and the local municipality acting for and in behalf of other groups will pay the department for all preliminary engineering, construction and maintenance costs.

G. Traffic Noise Prediction

Unless otherwise agreed upon in advance by UDOT and FHWA, only the current FHWA approved Traffic Noise Model (TNM) is approved for use in any traffic noise analysis.

Definitions

1. **Approach Criteria -** For the purpose of this document, the approach criteria is defined as within 1 decibel (dBA) of the appropriate Federal Highway Administration (FHWA) noise abatement criteria.

2. **Benefited Receiver -** A benefited receiver is a noise sensitive receiver that is predicted to receive a minimum of 5 dBA of noise reduction as a result of noise abatement. Only impacted and benefited receivers will be included in determination that any particular noise abatement procedure has a reasonable cost.

3. **Date of Public Knowledge -** The date of approval of the Environmental Study (ES), Categorical Exclusion (CE), the Finding of No Significant Impact (FONSI), or the Record of Decision (ROD).

4. **Decibel -** A descriptor of the difference between sound pressure levels. For traffic noise purposes the A-weighted scale closely approximates the range of frequencies a human ear can hear. The A-weighted decibel is abbreviated dBA.

5. **Design Noise Level** - The noise level calculated for the worst hourly traffic noise conditions likely to occur throughout the life of the project. Level of Service C traffic volumes will be used to calculate design noise levels unless there is a compelling reason not to use this level of service.

6. **Existing Noise Levels** - Noise resulting from the natural and mechanical sources and human activity considered to be usually present in the particular area.

7. **Front-Row Receiver -** A noise sensitive receiver (resident) that is located adjacent to or "nearest" to the transportation facility.

8. **Highway** -Public way for purposes of vehicular travel, including the entire area within the right-of-way.

9. **Impacted Receiver** - A noise sensitive receiver that is or will be subjected to highway traffic noise that equals or exceeds the noise abatement criteria or exceeds existing noise levels by 10 or more decibels (dBA).

10. **Landowner -** The current owner of record at the appropriate county Recorder's Office.

11. **Leq** - Equivalent (average) noise level, in units of decibel (dBA).

12. **Leq(h) -** The hourly value of Leq.

13. **Municipality** - A Local City, Town, County etc. having its own incorporated government for local affairs.

14. **Noise Sensitive Receiver -** Any property (owner occupied, rented, or leased) where frequent exterior human use occurs and where a lowered noise level would be of benefit. In those situations where there are no exterior activities to be affected by the traffic noise, the interior of the building will be used to identify a noise sensitive receiver.

15. **Planned, Designed, and Programmed -** The term used in this policy when the developer of a proposed development has been issued a formal building permit by the local agency of authority.

16. **Receiver** - Recipients of highway generated noise on property supporting activity categories A, B or C in Table I.

17. **Sensitive Land Uses** - Residential dwelling units, commercial/industrial sites, or other fixed, developed sites conforming to activity category A, B or C in Table 1.

18. **Severe Traffic Noise Impact** - A traffic noise impact which increases residential noise levels by 30 dBA (Leq) or more over existing noise levels, or results in noise levels of 80 dBA (Leq) or more.

19. **STIP** - State Wide Transportation Improvement Program. This is the annually updated list of projects advancing through design to construction.

20. **TNM** – The latest version of the FHWA Traffic Noise Model computer program used for highway traffic noise prediction and analysis.

21. **Type I Project** - A project in conjunction with new highway construction or existing highway construction that alters the horizontal or vertical alignment or increases the number of through-traffic lanes.

22. **Type II Project** - A project commonly referred to as a "retrofit" project to provide noise abatement along an existing highway. This type of noise abatement project is no longer performed by UDOT.

23. **UDOT Noise Abatement Criteria (NAC)** - The noise decibel (dBA) value reflecting the approach criteria of 1 decibel (dBA) below the NAC values listed in 23CFR 772 for each land use category.

Procedures

Noise Abatement **UDOT 08A2-1.1**

Responsibility: Region Environmental Engineer/Manager (Consultant, if employed by UDOT to complete the Noise Analyses as part of the Environmental Document preparation)

Actions

1. Determine if this is a Type-I project. If it is not a Type-I project, so disclose in the environmental document, ending the process with this step.

2. Determine types and numbers of sensitive land use activities (receptors) that might be impacted. If none, so disclose in the environmental document, ending the process with this step.

3. Measure or calculate existing noise levels.

4. Calculate design noise levels using LOS C to determine average worst hourly traffic volumes unless there is a compelling reason not to use this level of service. Compare design noise abatement criterion levels and existing noise levels. Identify impacted receptors. If no impacts, summarize findings for the environmental document, ending the process with this step.

5. Apply a value of **$30,000 per residence** to determine if noise abatement is cost effective for residential areas. This cost is based on an average cost index of noise barrier installed on UDOT projects that may be reviewed by the Department and updated, as needed.

6. Apply a value of **$250.00 per linear foot** to determine if noise abatement is cost effective for parks, picnic areas, recreation areas, playgrounds, active sports areas, parks, motels, hotels, schools, churches, libraries, hospitals, cemeteries and other non-residential land uses. This cost is based on an average cost index of noise barrier installed on UDOT projects that may be reviewed by the Department and updated, as needed.

7. Consider general abatement strategies, consistent with Department policy, for all impacted receptors and for each alternative, including No Action.

8. Prepare Preliminary Noise Analysis and direct its review.

9. Prepare environmental document, and include summary of the Preliminary Noise Analysis.

Responsibility: Project Manager

10. Direct the local municipality involvement process, providing information where noise abatement is likely and where it is not likely. Also discuss any possible right-of-way impacts with the UDOT Right-Of-Way Director. If the Preliminary Noise Analysis shows that there are no noise impacts or that impacts cannot be mitigated, the process ends with this step.

Responsibility: Project Manager and Region Public Involvement Coordinator

11. Conduct public involvement process

12. Conduct the balloting process – This task should take place during the final design phase of the project. The procedure to determine those in favor of noise abatement will be as follows:

    a. The total number of front row (adjacent) and other impacted and benefited receivers (residents/landowners) will be determined.

    b. The noise ballots will be a standard form (the standard form is posted on UDOT's web site) that includes, at a minimum, the UDOT official logo, the project name, project location, the project sponsor, the consultant's name, a brief explanation of the purpose of the balloting and boxes to indicate a preference for, or against the abatement and will also include a place for comments. The ballot will also include the deadline for votes to **be received** by the Department or consultant in order to be counted. A self addressed stamped envelope will be enclosed for return of the ballot.

    c. A reasonable effort will be made to send ballots to the correct address of the current owner of record that is impacted by noise as defined in this policy. In this case, a reasonable effort to obtain the current property owner of record including his/her current mailing address will consist of obtaining ownership records from the appropriate county Recorder's Office. Prior to balloting, a reasonable effort will be made by telephone, mailer, or in person to explain the process and to determine any special needs of the residents in casting a ballot.

d. Only the owner of record of the residence/property will be allowed to cast a ballot. This is further defined as each permanent single family residence and/or mobile home owner would get one vote from the owner of the residence as long as they also owned the land the residence is on, each apartment building would get one vote from the owner of the building/property regardless of how many units were in the complex, each mobile home park land owner would get one vote if the residents are renting spaces for their mobile homes. In the case of condominium/town home developments, the owner of each condominium/town home would get one vote. In the case of a retirement home, the owner of the home would get one vote for his property as a whole regardless of how many residents he had within his building. As for commercial and/or industrial developments, the owner of the land would get one vote for each individual parcel impacted regardless of the size or market value of the property. If front-row receivers consist of a mix of residential/commercial properties, the ballots of front-row receivers will be weighted based on the percentage of their property frontage to the total frontage along the transportation corridor being considered for noise abatement.

e. When the ballots for noise abatement are returned, all ballot results will be placed in the project files.

Responsibility: Region Environmental Engineer/Manager

13. Prepare a detailed Noise Study Report after identification of the preferred alternative and approval of the final environmental document.

14. Submit Noise Study Report to Region Preconstruction Engineer and Central Environmental Services for approval.

Responsibility: Region Preconstruction Engineer and UDOT Environmental Director

15. Review and approve Noise Study Report.

Responsibility: Project Manager

16. Incorporate the Noise Study Report into the Project Design Criteria (PDC) and submit to the Region Preconstruction Engineer for approval.

17. Incorporate approved abatement measures into design plans and specifications.

Appendix

UTAH DEPARTMENT OF TRANSPORTATION
NOISE ABATEMENT RECOMMENDATION CHECKLIST

Project Name:
Project Location.:
PIN:
Prepared By:
Receiver Name/Description:

Determination of Feasible and Reasonable Mitigation

1. Does the design noise level equal or exceed the UDOT Noise Abatement Criteria as defined in Table 1 of this Policy?
   Yes_____ No_____

If yes, proceed to Question #3. If no, proceed to Question #2.

2. Does the receiver, as a result of the design noise level, substantially exceed (10 or more dBA) the existing noise levels prior to construction?
   Yes_____ No_____

If yes, proceed to Question #3. If no, then noise abatement is not recommended. Proceed to decision segment of form.

3. Can effective noise abatement be constructed which would provide a minimum reduction of 5 dBA for at least 75 percent of front-row receivers?
   Yes_____ No_____

If yes, proceed to Question #4. If no, abatement measures are not feasible and are not recommended at this site. Proceed to decision segment of form.

4. Are there undeveloped lands along the project corridor?
   Yes_____ No_____

If yes, proceed to Question #5. If no, skip Question #5 and proceed to Question #6.

5. Were the undeveloped lands "planned, designed, and programmed" for development under Land Use Categories A, B or C prior to the date the final environmental decision document was approved as defined in this policy?
   Yes_____ No_____

If yes, proceed to Question #6. If no, implementation of abatement is not reasonable. Noise abatement is the responsibility of the land owner/developer. Proceed to decision segment of form.

6. Can noise abatement measures be constructed without creating a safety hazard to users and residents, and not interfere with operations and maintenance of the highway facility?
   Yes_____ No_____

If yes, proceed to Question #7. If no, abatement measures are not recommended at this site. Proceed to decision segment of form.

7. Does the cost per impacted and benefited residence exceed $30,000 for residential areas in Land Use Category B or exceed $250 per linear foot for non-residential areas in Land Use Category A and/or B or commercial and/or industrial zoned areas in Land Use Category C?
   Yes_____ No_____

If no, proceed to Question #8. If yes, does this receiver have a "severe noise impact" (the design noise levels increase the existing noise levels by 30 dBA or more and/or the noise levels are 80 dBA or greater)?
   Yes_____ No_____

If yes, proceed to Question #8. If no, noise abatement measures are not considered reasonable. Proceed to decision segment of form.

8. For non-limited access roadways, are local ordinances being followed regarding barrier height?

If yes, proceed to Question #9. If no, consult with the local government and reach consensus on barrier height. Include documentation in the project file, proceed to question 9.

9. Does the Public Involvement balloting result in a 75 percent majority of front row (adjacent) receivers and other impacted and benefited receivers voting in "favor" of the proposed noise abatement measure?
   Yes_____ No_____

If no, noise abatement measures are not considered reasonable. Proceed to decision segment of form. If yes, proceed to Question #10.

10. Are there any Environmental Impacts that need special attention as a result of the implementation of the noise abatement?
   Yes_____ No_____

If yes, outline these impacts and discuss with the Environmental Engineer or Manager in the Region.

Decision

Are Abatement Measures feasible? Yes_____ No_____

Are Abatement Measures reasonable? Yes_____ No_____

Utah Department of Transportation
Noise Wall Ballot

Project Name:_____

Project Location: _____

Project Sponsor(s): _____

Project Contact: _____ **Telephone:** _____

Ballot Purpose

Your residence/property has been identified as potentially having highway noise impacts due to the proposed project. As part of the noise study for this project, we would like to get your opinion on whether you would be in favor of noise walls being constructed to reduce expected noise levels.

Your input, along with other information including; local ordinances, the amount of noise reduction achieved, engineering considerations, cost, and views of the impacted and benefited residents will be considered together, to come to a decision on whether or not to construct noise abatement measures. Please check the appropriate line, include any comments you may have and return this ballot in the self-addressed stamped envelope.

Please note that at least 50 percent of ballots sent, must be completed and returned for UDOT to assess if the public desires noise walls. Also, in order for noise walls to be constructed, at least 75 percent of ballots returned must vote in support of the noise wall(s). Your ballot needs to be received by _____in order to be counted. Thank you for your participation!

___ I **support** a noise wall.

___ I **do not support** a noise wall.

Comments:

_____

_____

_____

_____

Property Owner Name: _____

Property Address: _____

Property Owner Signature:_____ **Date:** _____